

10/550679**19C20 Rec'd PCT/PTO 26 SEP 2009****Claims**

1. A method of determining the acoustical transfer impedance Z_t between a first position and a listening position of a human being, the method comprising

- generating an acoustical volume velocity Q in the listening position,

- measuring a response quantity p at the first position resulting from the volume velocity Q , and

- determining the acoustical transfer impedance Z_t as the response quantity p divided by the acoustical volume velocity Q , $Z_t = p/Q$,

characterized in that

the acoustical volume velocity Q is generated using a simulator (10) simulating acoustic properties of at least a head of a human being, the simulator comprising a simulated human ear (14, 15) with an orifice in the simulated head and a sound source (30) for outputting the acoustical volume velocity Q through the orifice.

p in the simulator (10)

2. A method according to claim 1, wherein the simulator simulates the head (13) and a torso (11) of a human being.

3. A method according to claim 1, wherein the simulator comprises a sound source (30) in the interior of the simulator and a pair of microphones (M1, M2; M3, M4) arranged to measure a pair of sound pressures in a canal (18) leading from the sound source to the orifice, and that the method further comprises determining the volume velocity Q based on the pair of sound pressures.

4. A method according to claim 1, wherein the response quantity is sound pressure.
- 5 5. A method according to claim 1, wherein the response quantity is vibration velocity or vibration acceleration.
6. A simulator (10) for use with the method according to any one of claims 1-5 and simulating acoustic properties of at least a head of a human being, the
10 simulator comprising a simulated human ear (14, 15) with an orifice in the simulated head and a sound source (30) for outputting the acoustical volume velocity Q through the orifice. *Q in the simulator (10)*
7. A simulator (10) according to claim 6, wherein the simulator simulates the
15 head (13) and a torso (11) of a human being.
8. A simulator (10) according to any claim 6, wherein the simulator comprises two orifices simulating a left ear (14) and right ear (15) respectively of the simulated human being.
- 20 9. A simulator according to claim 8, wherein means (19) are provided for selectively outputting sound signals through the simulated left ear (14) or through the simulated right ear (15).
- 25 10. A simulator according to claim 6, wherein the simulator comprises means (M1, M2; M3, M4) for measuring the sound output from the simulated ears (14, 15).
- 30 11. A simulator according to claim 10, wherein the means for measuring the sound output from the simulated ears (14, 15) comprises a pair of microphones (M1, M2; M3, M4) for measuring the output sound volume velocity.